



SIMATIC DP, POWER MODULE PM-E F PROFISAFE, FOR ET 200S; 24V DC USEABLE FOR INSTALLATIONS WITH UNGROUNDED REFERENCE POTENTIAL RELAYS FOR FAIL-SAFE SWITCHING OF VOLTAGE BUSES P1 AND P2 UP TO CATEGORY 3 (EN954-1)/ SIL2 (IEC61508)/PLD (ISO13849), 2 FAIL-SAFE DIGITAL OUTPUTS UP TO CATEGORY 4 (EN954-1)/ SIL3 (IEC61508)/PLE (ISO13849), ALSO USEABLE IN PROFINET-NETWORKS W. IM151-3 HF

Figure similar

Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V
• Reverse polarity protection	No
Input current	
from load voltage L+ (without load), max.	typ. 100 mA
from backplane bus 24 V DC, max.	28 mA
Current carrying capacity	
up to 40 °C, max.	10 A
up to 60 °C, max.	6 A
Power losses	
Power loss, typ.	4 W
Address area	
Address space per module	
• without packing	5 byte; Input and output in each case
Digital inputs	
Cable length	
• shielded, max.	200 m
• Unshielded, max.	200 m
Digital outputs	
Number of digital outputs	2
short-circuit protection	Yes; Electronic

<ul style="list-style-type: none"> <li>• Response threshold, typ.</li> </ul>	Response threshold (short-circuit): 5 to 12 A; response threshold (external short-circuit to ground): 5 to 12 A; response threshold (external short-circuit to P potential): 25 to 45 A
Limitation of inductive shutdown voltage to	L+ (-2x 47 V)
Controlling a digital input	No
<b>Switching capacity of the outputs</b>	
<ul style="list-style-type: none"> <li>• on lamp load, max.</li> </ul>	10 W
<b>Load resistance range</b>	
<ul style="list-style-type: none"> <li>• lower limit</li> </ul>	12 $\Omega$
<ul style="list-style-type: none"> <li>• upper limit</li> </ul>	1 k $\Omega$
<b>Output voltage</b>	
<ul style="list-style-type: none"> <li>• for signal "1", min.</li> </ul>	L+ (-2,0 V), current sourcing switch: L+ (-1,5 V), voltage drop on current sinking switch: max. 0.5 V
<b>Output current</b>	
<ul style="list-style-type: none"> <li>• for signal "1" rated value</li> </ul>	2 A
<ul style="list-style-type: none"> <li>• for signal "1" permissible range for 0 to 60 °C, min.</li> </ul>	20 mA
<ul style="list-style-type: none"> <li>• for signal "1" permissible range for 0 to 60 °C, max.</li> </ul>	2.4 A
<ul style="list-style-type: none"> <li>• for signal "0" residual current, max.</li> </ul>	0.5 mA
<b>Parallel switching of 2 outputs</b>	
<ul style="list-style-type: none"> <li>• for increased power</li> </ul>	No
<ul style="list-style-type: none"> <li>• for redundant control of a load</li> </ul>	No
<b>Switching frequency</b>	
<ul style="list-style-type: none"> <li>• with resistive load, max.</li> </ul>	30 Hz
<ul style="list-style-type: none"> <li>• with inductive load, max.</li> </ul>	0.1 Hz
<ul style="list-style-type: none"> <li>• on lamp load, max.</li> </ul>	10 Hz
<b>Aggregate current of outputs (per group)</b>	
horizontal installation	
— up to 40 °C, max.	10 A
— up to 55 °C, max.	7 A
— up to 60 °C, max.	6 A
vertical installation	
— up to 40 °C, max.	6 A
<b>Relay outputs</b>	
<b>Switching capacity of contacts</b>	
— at ohmic load, up to 50 °C, max.	10 A
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>	200 m
<ul style="list-style-type: none"> <li>• Unshielded, max.</li> </ul>	200 m
<b>Interrupts/diagnostics/status information</b>	
Diagnostic messages	

• Diagnostic functions	Yes
• Diagnostic information readable	Yes
• Diagnostics	Yes
• Wire break	Yes
• Short circuit	Yes
• Missing load voltage	Yes

#### Diagnostics indication LED

• Rated load voltage PWR (green)	Yes
• Group error SF (red)	Yes
• Status indicator digital output (green)	Yes

#### Galvanic isolation

##### Galvanic isolation digital outputs

• between the channels	No
• between the channels and the backplane bus	Yes
• between the channels and the load voltage L+	No

#### Isolation

Isolation checked with	500 V DC
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##### tested with

• Channels against backplane bus and load voltage L+	500 V DC
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#### Standards, approvals, certificates

##### Highest safety class achievable in safety mode

• acc. to EN 954	4
• SIL according to IEC 61508	Up to SIL 3

#### Dimensions

Width	30 mm
Height	81 mm
Depth	52 mm

#### Weights

Weight, approx.	88 g
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**last modified:** 12.03.2015